

In the Claims

The following is a complete listing of the claims and replace all prior claims in the application:

- 1 1. (Currently Amended) A method for minimizing the cycle time of a
2 burnish test cycle, comprising:
3 prior to initialization, positioning a back portion of an air-bearing surface of a
4 slider bearing a MR head to be co-planar with a recording surface;
5 thereafter executing ~~performing burnish operations~~ burnishing operations on the
6 back portion of the air bearing surface to remove material from the back portion of the
7 air-bearing surface;
8 monitoring ~~measuring an initial MR resistance for a head~~ measurements of the
9 MR head representing interference between the air-bearing surface of the slider and the
10 recording surface;
11 determining whether the measured ~~MR~~ resistance of the MR head indicates the
12 head has clearance between the air-bearing surface of the slider and the recording
13 surface; and
14 completing the test cycle when the head is determined to have clearance when
15 clearance between the air-bearing surface of the slider and the recording surface is not
16 detected based upon the monitoring of the resistance measurements of the MR head,
17 lowering a fly-height between the back portion of the air-bearing surface of the MR
18 head and the recording surface and executing burnishing operations on the back portion
19 of the air bearing surface to remove material from the back portion of the air-bearing
20 surface until the monitoring of the resistance measurements of the MR head indicates
21 the air-bearing surface of the slider has clearance above the recording surface.

1 2. (Currently Amended) The method of claim 1 further comprising:
2 reducing the fly-height of the head when the measured ~~MR~~ resistance of the MR
3 head indicates the head does not have clearance;
4 perform a subsequent burnish operation;
5 measuring the ~~MR~~ resistance of the MR head again; and
6 returning to determine whether the measured ~~MR~~ resistance of the MR head
7 indicates the MR head has clearance.

1 3. (Previously Presented) The method of claim 2, wherein the
2 reducing the fly-height of the head further comprises selecting at least one process from
3 the group comprising reducing the pressure within the disclosure, reducing the spindle
4 speed and increasing the pre-load to the head.

1 4. (Currently Amended) The method of claim 1, wherein the determining
2 whether measured ~~MR~~ resistance of the MR head indicates the head has clearance
3 further comprises comparing the absolute ~~MR~~ resistance of the MR head measurements
4 to a threshold to identify whether the head has clearance.

1 5. (Currently Amended) The method of claim 1, wherein the determining
2 whether measured ~~MR~~ resistance of the MR head indicates the head has clearance
3 further comprises comparing the ~~MR~~ resistance of the MR head rate of change to a
4 threshold to identify whether the head has clearance.

1 6. (Currently Amended) A drive controller for minimizing the cycle time of
2 a burnish test cycle, the drive controller comprising:
3 memory for storing data therein; and
4 a processor, coupled to the memory, the processor being configured for, prior to
5 initialization, performing burnish operations, measuring an initial MR resistance for a
6 head, determining whether the measured MR resistance indicates the head has clearance
7 and completing the test cycle when the head is determined to have clearance.
8 positioning a back portion of an air-bearing surface of a slider bearing a MR head to be
9 co-planar with a recording surface; thereafter for executing burnishing operations on the
10 back portion of the air bearing surface to remove material from the back portion of the
11 air-bearing surface, for monitoring resistance measurements of the MR head
12 representing interference between the air-bearing surface of the slider and the recording
13 surface, for determining whether the measured resistance of the MR head indicates the
14 head has clearance between the air-bearing surface of the slider and the recording
15 surface; and, when clearance between the air-bearing surface of the slider and the
16 recording surface is not detected based upon the monitoring of the resistance
17 measurements of the MR head, for lowering a fly-height between the back portion of
18 the air-bearing surface of the MR head and the recording surface and executing
19 burnishing operations on the back portion of the air bearing surface to remove material
20 from the back portion of the air-bearing surface until the monitoring of the resistance
21 measurements of the MR head indicates the air-bearing surface of the slider has
22 clearance above the recording surface.

1 7. (Currently Amended) The ~~method~~ drive controller of claim 6, wherein
2 the processor is further configured for reducing the fly-height of the head when the
3 measured ~~MR~~ resistance of the MR head indicates the head does not have clearance,
4 perform a subsequent burnish operation, measuring the ~~MR~~ resistance of the MR head
5 again and returning to determine whether the measured MR resistance indicates the
6 head has clearance.

1 8. (Currently Amended) The ~~method~~ drive controller of claim 7, wherein
2 the processor reducing the fly-height of the head by selecting at least one process from
3 the group comprising reducing the pressure within the disclosure, reducing the spindle
4 speed and increasing the pre-load to the head.

1 9. (Currently Amended) The ~~method~~ drive controller of claim 6, wherein
2 the processor determines whether measured MR resistance indicates the head has
3 clearance by comparing the absolute ~~MR~~ resistance of the MR head measurements to a
4 threshold to identify whether the head has clearance.

1 10. (Currently Amended) The ~~method~~ drive controller of claim 6, wherein
2 the processor determines whether measured ~~MR~~ resistance of the MR head indicates the
3 head has clearance by comparing the MR resistance rate of change to a threshold to
4 identify whether the head has clearance.

1 11. (Currently Amended) A program storage device readable by a computer,
2 the program storage device tangibly embodying one or more programs of instructions
3 executable by the computer to perform operations for minimizing the cycle time of a
4 burnish cycle, the operations comprising:

5 prior to initialization, positioning a back portion of an air-bearing surface of a
6 slider bearing a MR head to be co-planar with a recording surface;

7 ~~thereafter executing performing burnish operations~~ burnishing operations on the
8 back portion of the air bearing surface to remove material from the back portion of the
9 air-bearing surface;

10 ~~monitoring measuring an initial MR resistance for a head~~ measurements of the
11 MR head representing interference between the air-bearing surface of the slider and the
12 recording surface;

13 determining whether the measured MR resistance of the MR head indicates the
14 head has clearance between the air-bearing surface of the slider and the recording
15 surface; and

16 ~~completing the test cycle when the head is determined to have clearance when~~
17 clearance between the air-bearing surface of the slider and the recording surface is not
18 detected based upon the monitoring of the resistance measurements of the MR head,
19 lowering a fly-height between the back portion of the air-bearing surface of the MR
20 head and the recording surface and executing burnishing operations on the back portion
21 of the air bearing surface to remove material from the back portion of the air-bearing
22 surface until the monitoring of the resistance measurements of the MR head indicates
23 the air-bearing surface of the slider has clearance above the recording surface.

1 12. (Currently Amended) The program storage device of claim 11 further
2 comprising:
3 performing burnish operations;
4 measuring an initial ~~MR~~ resistance of the MR head for a head;
5 determining whether the measured ~~MR~~ resistance of the MR head indicates the
6 head has clearance; and
7 completing the test cycle when the head is determined to have clearance.

1 13. (Previously Presented) The program storage device of claim 12,
2 wherein the reducing the fly-height of the head further comprises selecting at least one
3 process from the group comprising reducing the pressure within the disclosure, reducing
4 the spindle speed and increasing the pre-load to the head.

1 14. (Currently Amended) The program storage device of claim 11, wherein
2 the determining whether measured ~~MR~~ resistance of the MR head indicates the head has
3 clearance further comprises comparing the absolute ~~MR~~ resistance of the MR head
4 measurements to a threshold to identify whether the head has clearance.

1 15. (Currently Amended) The program storage device of claim 11, wherein
2 the determining whether measured ~~MR~~ resistance of the MR head indicates the head has
3 clearance further comprises comparing the ~~MR~~ resistance of the MR head rate of change
4 to a threshold to identify whether the head has clearance.